Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.80

Product:	3004654 - PVC Electro Pipe Vsv GY 3/4" L=4 Cont
Unit:	1 piece
Manufacturer:	Wavin - NL - Hardenberg - Verified
Address:	J.C. Kellerlaan 3 7772 SG Hardenberg Netherlands

With Wavin electro PVC you not only opt for a complete range, but also for high quality.

LCA standard:	NMD Bepalingsmethode 1.1 (2022)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	08-06-2023
End of validity:	08-06-2028
Verifier:	Martijn van Hövell - SGS Search

This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard.

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - NL - Hardenberg - Verified (2020). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

ECI = Environmental Costs Indicator [euro]; **ADPE** = Abiotic depletion potential for non-fossil resources [kg Sb-eq]; **ADPF** = Abiotic depletion potential for fossil resources [kg Sb-eq]; **GWP** = Global warming potential [kg CO2-eq]; **ODP** = Depletion potential of the stratospheric ozone layer [kg CFC-11-eq]; **POCP** = Formation potential of tropospheric ozone photochemical oxidants [kg ethene-eq]; **AP** = Acidification potential of land and water [kg SO2-eq]; **EP** = Eutrophication potential [kg PO4 3−-eq]; **HTP** = Human toxicity potential [kg 1,4-DB-eq]; **FAETP** = Freshwater aquatic ecotoxicity potential [kg 1,4-DB-eq]; **MAETP** = Marine aquatic ecotoxicity potential [kg 1,4-DB-eq]; **TETP** = Terrestrial ecotoxicity potential [kg 1,4-DB-eq]; **GWP-total** = EF EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	0.09	0	0	0.09	0	0.03	0	-0.04	0.08
ADPE	kg Sb-eq	2.05E-5	4.29E-7	6.66E-7	2.16E-5	2.83E-7	2.40E-6	3.00E-9	-8.75E-6	1.56E-5
ADPF	kg Sb-eq	9.54E-3	1.23E-4	1.79E-4	9.84E-3	7.97E-5	8.45E-4	4.23E-6	-4.95E-3	5.82E-3
GWP	kg CO2-eq	7.91E-1	1.68E-2	3.17E-2	8.39E-1	1.09E-2	2.83E-1	2.74E-3	-4.16E-1	7.20E-1
ODP	kg CFC-11-eq	4.26E-7	2.98E-9	2.98E-9	4.32E-7	2.01E-9	3.47E-8	1.01E-10	-2.17E-7	2.52E-7
POCP	kg ethene-eq	5.13E-4	1.01E-5	1.40E-5	5.37E-4	6.52E-6	6.57E-5	7.22E-7	-2.12E-4	3.97E-4
AP	kg SO2-eq	3.11E-3	7.38E-5	1.25E-4	3.31E-3	4.67E-5	4.85E-4	2.26E-6	-1.35E-3	2.49E-3
EP	kg PO4 3−-eq	3.61E-4	1.45E-5	1.97E-5	3.95E-4	9.34E-6	7.29E-5	8.80E-7	-1.61E-4	3.18E-4
HTP	kg 1,4-DB-eq	2.82E-1	7.07E-3	1.20E-2	3.01E-1	4.65E-3	1.30E-1	2.34E-4	-1.31E-1	3.05E-1
FAETP	kg 1,4-DB-eq	6.14E-3	2.06E-4	4.88E-4	6.84E-3	1.36E-4	1.92E-3	7.16E-5	-2.87E-3	6.10E-3
MAETP	kg 1,4-DB-eq	1.78E+1	7.42E-1	1.99E+0	2.06E+1	4.86E-1	6.38E+0	8.71E-2	-8.47E+0	1.90E+1
TETP	kg 1,4-DB-eq	1.96E-3	2.50E-5	7.44E-4	2.73E-3	1.65E-5	4.64E-4	7.77E-7	-9.55E-4	2.25E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	8.20E-1	1.69E-2	3.74E-2	8.74E-1	1.10E-2	2.85E-1	3.19E-3	-4.29E-1	7.45E-1
GWP-f	kg CO2 eq	8.13E-1	1.69E-2	2.93E-2	8.59E-1	1.09E-2	2.85E-1	3.19E-3	-4.25E-1	7.33E-1
GWP-b	kg CO2 eq	6.31E-3	7.82E-6	6.33E-3	1.27E-2	6.65E-6	-2.93E-4	4.09E-6	-3.00E-3	9.37E-3
GWP-luluc	kg CO2 eq	5.69E-4	6.20E-6	1.78E-3	2.36E-3	3.88E-6	1.32E-4	8.46E-8	-2.78E-4	2.22E-3
ODP	kg CFC11 eq	4.20E-7	3.74E-9	3.54E-9	4.27E-7	2.52E-9	3.57E-8	1.26E-10	-2.15E-7	2.51E-7
AP	mol H+ eq	3.73E-3	9.82E-5	1.60E-4	3.99E-3	6.24E-5	6.07E-4	3.03E-6	-1.62E-3	3.04E-3
EP-fw	kg P eq	3.48E-5	1.71E-7	4.19E-7	3.54E-5	9.01E-8	4.39E-6	3.83E-9	-1.58E-5	2.41E-5
EP-m	kg N eq	6.28E-4	3.46E-5	4.71E-5	7.09E-4	2.23E-5	1.47E-4	1.86E-6	-2.80E-4	6.00E-4
EP-T	mol N eq	6.51E-3	3.82E-4	5.05E-4	7.39E-3	2.46E-4	1.62E-3	1.21E-5	-2.98E-3	6.29E-3
POCP	kg NMVOC eq	2.35E-3	1.09E-4	1.43E-4	2.61E-3	7.03E-5	4.85E-4	4.13E-6	-1.04E-3	2.13E-3
ADP-mm	kg Sb eq	2.05E-5	4.29E-7	6.66E-7	2.16E-5	2.83E-7	2.40E-6	3.00E-9	-8.75E-6	1.56E-5
ADP-f	MJ	2.03E+1	2.55E-1	3.39E-1	2.08E+1	1.68E-1	1.67E+0	9.15E-3	-1.04E+1	1.23E+1
WDP	m3 depriv.	1.27E+0	9.13E-4	2.29E-1	1.50E+0	5.16E-4	6.58E-2	5.11E-5	-6.18E-1	9.48E-1
PM	disease inc.	2.51E-8	1.52E-9	2.48E-9	2.91E-8	9.88E-10	7.58E-9	6.27E-11	-1.03E-8	2.74E-8
IR	kBq U-235 eq	4.01E-2	1.07E-3	6.12E-4	4.18E-2	7.35E-4	5.85E-3	4.20E-5	-1.99E-2	2.85E-2
ETP-fw	CTUe	1.25E+1	2.28E-1	5.65E-1	1.33E+1	1.36E-1	1.27E+1	1.41E-1	-5.97E+0	2.03E+1
HTP-c	CTUh	4.97E-10	7.39E-12	1.93E-11	5.23E-10	4.86E-12	1.80E-10	2.40E-13	-2.26E-10	4.82E-10
HTP-nc	CTUh	1.62E-8	2.49E-10	5.90E-10	1.71E-8	1.63E-10	4.44E-9	2.70E-11	-7.83E-9	1.39E-8
SQP	Pt	2.32E+0	2.22E-1	2.54E-2	2.57E+0	1.44E-1	1.04E+0	2.33E-2	-1.10E+0	2.67E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.22E-1	3.20E-3	1.02E+0	1.95E+0	2.41E-3	1.21E-1	3.35E-4	-4.49E-1	1.62E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.22E-1	3.20E-3	1.02E+0	1.95E+0	2.41E-3	1.21E-1	3.35E-4	-4.49E-1	1.62E+0
PENRE	MJ	2.17E+1	2.71E-1	3.67E-1	2.24E+1	1.78E-1	1.78E+0	9.71E-3	-1.12E+1	1.32E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.17E+1	2.71E-1	3.67E-1	2.24E+1	1.78E-1	1.78E+0	9.71E-3	-1.12E+1	1.32E+1
PET	MJ	2.27E+1	2.74E-1	1.39E+0	2.43E+1	1.81E-1	1.90E+0	1.00E-2	-1.16E+1	1.48E+1
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	1.36E-2	3.11E-5	5.40E-3	1.90E-2	1.90E-5	1.80E-3	1.12E-5	-6.47E-3	1.44E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.50E-5	6.47E-7	4.75E-7	1.61E-5	4.30E-7	2.69E-6	1.10E-8	-8.56E-6	1.07E-5
NHWD	kg	7.13E-2	1.62E-2	6.85E-4	8.82E-2	1.04E-2	6.09E-2	4.16E-2	-3.28E-2	1.68E-1
RWD	kg	3.51E-5	1.68E-6	8.53E-7	3.76E-5	1.14E-6	6.26E-6	5.97E-8	-1.76E-5	2.75E-5
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0

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